

REMARKS:

- 1) Entry and consideration of this Response after Final are respectfully requested.

This is applicant's first opportunity to reply to the new grounds of rejection applying a new reference, asserted for the first time in the Final Office Action.

This Response does not raise any new issues that require further search or consideration, but rather merely addresses the issues that were raised in the Final Office Action.

This Response does not make any substantive claim amendments touching the merits of the application. The only amendment corrects a matter of form in claim 21 as expressly set forth in the Final Office Action.

Thus, the present Response complies with 37 CFR §1.116, and entry and consideration thereof are respectfully requested.

- 2) Referring to item 10) of the Office Action Summary, please indicate the acceptance of the drawing Replacement Sheets filed on November 25, 2003.
- 3) A formality has been corrected in the specification. Namely, at page 7 lines 1 and 11 (of the Substitute Specification filed on November 25, 2003), a superfluous reference number that does not appear in the drawings has been deleted. Entry of this editorial amendment is respectfully requested.

- 4) Referring to section 1 on page 2 of the Office Action, the informality noted by the Examiner in claim 21 has been addressed in the present claim amendment. Claim 21 is now clearly and coherently directed to a combination comprising the muffler according to claim 1 connected to an internal combustion engine of a model aircraft. This amended claim 21 has the same intended meaning and scope as the previous claim 21, but is now defined in a different manner. The Examiner is respectfully requested to withdraw the objection to claim 21.
- 5) Referring to section 2 on pages 2 to 4 of the Office Action, the rejection of claims 1, 3 to 16, 18 to 21, 23 and 24 as obvious over US Patent 1,818,469 (Floyd, Jr.) in view of US Patent 2,076,827 (Ross) is respectfully traversed. The last two lines on page 3 of the Office Action additionally mention a "Ford" reference, but it is assumed that this intends to refer to "Ross". Nonetheless, if the Ford reference is being additionally cited, applicant hereby incorporates and reasserts the arguments regarding the Ford reference as set forth in the prior Response of August 1, 2005. The arguments regarding the Floyd Jr. reference are also incorporated herein and reasserted from the prior Response.
- 6) A person of ordinary skill in the art would not have been motivated to combine the teachings of the two references as now proposed in the Office Action.

As pointed out by the Examiner, Floyd Jr. discloses a muffler having a housing and deflecting elements (17) that are

secured in a positionally fixed manner in the housing. Particularly, these deflecting elements or baffle plates (17) have peripheral flanges (18) that bear against the inner surface of the housing body (5) and are rigidly affixed to the central axial tube or equalizing chamber (16) (page 1 lines 69 to 77). Thereby, the deflecting elements (17) are absolutely not rotatable, but rather are rigidly fixed and stationary in order to achieve their intended gas-deflecting and baffling effect (page 2 lines 1 to 20).

On the other hand, Ross discloses a muffler having a housing and rotatable fan wheels (14, 15, 16) that are rotatably mounted within the housing (col. 1 lines 19 to 22, col. 2 lines 15 to 17 and 32 to 37, col. 4 lines 1 to 13). Furthermore, these fans (14, 15, 16) are purposely and necessarily rotatable in order to achieve their intended gas-swirling and muffling effect. Namely, energy of the gas is dissipated when the gas causes the fans to rotate (col. 1 lines 19 to 22, col. 2 lines 40 to 52, col. 3 lines 1 to 5). Ross expressly uses the rotation of the fan blades to deflect, agitate, swirl, and impart turbulence to the gasses passing through the muffler, so that the noise can be muffled while back pressure is eliminated (col. 2 line 38 to col. 3 line 5).

Thus, Floyd Jr. necessarily requires fixed stationary deflecting members, while Ross necessarily requires rotatable fan blades. Due to the different structures as well as different gas-deflecting and muffling functions of the arrangement according to Floyd Jr. versus the arrangement according to Ross, a person of ordinary skill would not have been motivated to

combine the fan configuration according to Ross in the muffler arrangement according to Floyd Jr. Moreover, a person of ordinary skill would have had no expectation of achieving success by carrying out such a combination of features, because the disparate required objects or purposes of the two references could not have been achieved or even reconciled with each other.

More particularly, Floyd Jr. discloses and requires a configuration of the deflecting elements having a peripheral flange that bears against and is stationary relative to the housing. On the other hand, Ross discloses fan blades having guide vanes with a free leading edge and a free trailing edge bounding slots therebetween, only for a rotatable fan blade, which must purposely leave the periphery of the fan blade disconnected and separated from the housing of the muffler. In fact, Ross necessarily leaves a substantial gap between the periphery of each fan blade and the casing or housing of the muffler, to ensure the free rotatability of the fan blade. There would have been no suggestion to use such a fan blade structure or configuration of a rotatable fan blade for a stationary fixed deflecting element according to Floyd Jr.

- 7) Furthermore, even if the teachings of Ross had been considered in combination with those of Floyd Jr., the present invention still would not have been suggested.

Present independent claim 1 expressly recites that the muffler comprises deflecting elements that are arranged in a fixed manner in the housing of the muffler. Present claim 1 further defines the structure and configuration of the

deflecting elements. Namely, each deflecting element comprises a disk-shaped body having radially extending guide vanes that each have a free leading edge and a free trailing edge bounding respective open slots therebetween. In other words, these guide vanes can be said to have a configuration like a fan blade, for example as shown in present Figs. 3 and 4.

Floyd Jr. does not disclose and would not have suggested such a structure and configuration of guide vanes, for the reasons set forth in the prior Response of August 1, 2005. In this regard, the Examiner has turned to the Ross patent.

However, Ross does not disclose and would not have suggested anything about an appropriate configuration or structure of guide vanes of deflecting elements that are fixedly arranged in the muffler housing, as required by present claim 1. Namely, as discussed above, Ross discloses only a suitable configuration of fan blades for rotatable fan wheels. The particular shape and structure of the fan blades is selected so that the gas flowing through the fan will cause the fan to rotate (col. 1 lines 19 to 22, col. 2 lines 32 to 55). Also, this fan blade configuration is provided to ensure a separation and clearance gap between the periphery of the fan and the inner wall of the muffler housing, so that the fan wheel is rotatable relative to the muffler housing.

Such features would not have had any significance with regard to a stationary deflecting element that is arranged in a fixed manner in the muffler housing. Thus, even a combined consideration of the substantially different teachings of Ross regarding a rotatable fan, and those of Floyd Jr. regarding a

fixed deflecting element, the construction according to present claim 1 would not have been obvious. For example, most basically, it would not have been known or expected by a person of ordinary skill in the art, whether the teachings of Ross for a rotatable fan wheel would also have been functional for a fixed deflecting element, because Ross absolutely requires the rotation of the fan wheel to achieve a gas-deflecting and muffling effect.

- 8) For the above reasons, the invention of claim 1 would not have been obvious over the prior art. The other claims are patentable in view of their dependence from claim 1. Accordingly, the Examiner is respectfully requested to withdraw the rejection of claims 1, 3 to 16, 18 to 21, 23 and 24 as obvious over Floyd Jr. in view of Ross.
- 9) If it would be helpful for the Examiner's further consideration and allowance of this application, the applicant would gladly conduct a demonstration of a muffler embodied according to present claim 1, in comparison to a muffler constructed according to the prior art, in the presence of the Examiner. Such a comparative test would demonstrate the extremely good muffling effect achieved by the inventive arrangement in comparison to the prior art. Accordingly, applicant respectfully requests an interview with the Examiner to conduct such a demonstration, or would gladly submit evidence in another form (such as noise measurements and other test data, and/or a video tape), if such would be helpful to advance the application to allowance.

10) Favorable reconsideration and allowance of the application, including all present claims 1, 3 to 16, 18 to 21, 23 and 24, are respectfully requested.

Respectfully submitted,
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Applicant

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Transmittal Cover Sheet

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I hereby certify that this correspondence with all indicated enclosures is being transmitted by telefax to (571) 273-8300 on the date indicated below, and is addressed to: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

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